WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

SOCIAL MEDIA SENTIMENTAL ANALYSIS

Dr. Ranga swamy C [1], Chitra Suresh [2]

[1] S J C Institute of Technology Dept of ECE, Chikkaballapur crcecesait@gmail.com

[2] S J C Institute of Technology Dept of ECE, Chikkaballapur chitrasuresh839@gmail.com

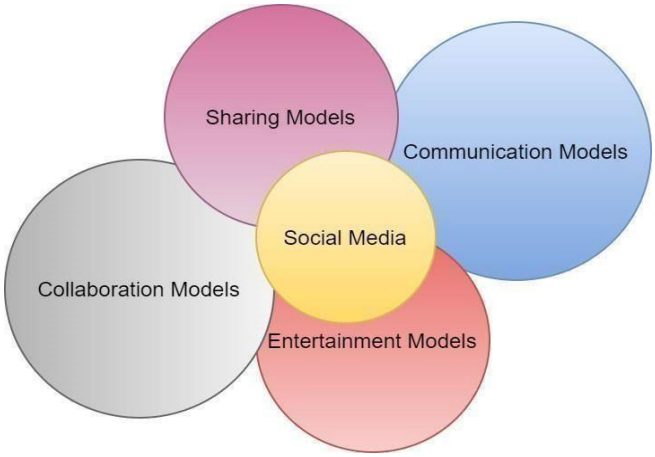
ABSTRACT

Machines are continually being channelized in the current era of automation to deliver accurate interpretations of what people communicate on social media. Like you all known success of the companyora product directly depends on its customer right, so customer likes your product it's your success. if notthen you certainly need to improvise it by make some changes in it. So we need to analyse our customer reviews right andone of the attribute to analysing customer is to analyse sentiment of them and this is where sentimental analysis comes into picture. Sentiment analysis is a process of computationally identifying and categorizing opinions from piece of text and determine whether the writter's attitude towards the particular product or the topic is negative, positive or neutral.In python which is very simple that we are using textblob which is python library for processing textual data and it will allow us to perform common natural language processor tasks such as partsofspeech tagging down for it's extraction, sentimental analysis classification and many other things**.**

INTRODUCTION

Digital Sentiment analysis is a part of NLP; text can be classified by sentiment (sometimes referred to as polarity), at a coarse or fine-grained level of analysis. Coarse sentiment analysis could be either binary (positive or negative) classification or on a 3 -point scale which would include neutral.Whereas a 5-point scale would be fine-grained analysis, representing highly positive, positive, neutral, negative and highly negative. Early analysis relied on rule-based methods, like those used by the Python libraries TextBlob which is popular amongst beginners. Most machine learning (ML) methods are feature-based and involve either shallow or deep learning. Shallow approaches include using classification algorithms in a single layer neural network whereas deep learning for NLPnecessitates multiple layers in a neural network. One of these layers (the first hidden layer) will be anembedding layer, which contains contextual information A detailed explanation of neuralnets is beyond the scope of this post, however for our purposes an oversimplification willsuffice: Neural networks area collection of algorithms that learn relationships about datain a way that mimics the network of neurons in the human brain. Fora deeper dive into the fascinating theory behind neural networks,I suggest this introductory post.

A common theme I noticed is that the better a method is at capturing nuances from context, the greater the sentiment classification accuracy. There are several techniques for encoding or embedding text in a way that captures contextfor higher accuracy. Therefore an embedding layer isintegral to the success of a deep learning model. Today, deep learning is advancing the NLP field at an exciting rate. At the cutting edge of deep learning are transformers, pre-trained language models with potentially billions of parameters, that are open-source and can be used for state-of- the-art accuracy scores. I created the diagram below toshowcase the Python libraries and ML frameworks available for sentiment analysis, but don't feeloverwhelmed there are several options that are accessiblefor beginners. Machine learning is a subfield of artificial intelligence (AI). The goal of machine learning generally is to understand the structure of data and fit that data into models that can be understood and utilized by people. Although machine learning is a field within computer science, it differs from traditional computationalapproaches. In traditional computing, algorithms are sets of explicitly programmed instructions used by computers to calculate or problem solve. Machine learning algorithms instead allow for computers to train on data inputs anduse statistical analysis in order to output valuesthat fall within a specific range. Because of this, machine learning facilitates computers in building models from sample data in order to automate decision-makingprocesses based on data inputs. Any technology user todayhas benefitted from machine learning. Facial recognition technology allows social media platforms to help users tagand share photos of friends. Optical character recognition(OCR) technology converts images of text into movable type. Recommendation engines, powered by machine learning, suggest what movies or television shows to watch next based on user preferences. Self-driving cars that rely on machine learning to navigate may soon be available to consumers. Machine learning is a continuous.



METHODOLOGY

This section describes the study's methodology.

DATASET

The dataset used in this is the informal chats happened among different friend groups over Facebook, tweets and chat. It is found that most of the young people express their feelings usinginformal text, i.e.,short messages with lengthened words. The data files are created in the Comma Separated Values (CSV)format since Python can handle these types of files moreeasily. In theproposed algorithm, the intensification criteria aredeveloped using three linguistic experts, with 0.68 kappa agreement.

DATA PREPARATION

For the preparation of the needed data, a simple Python code is built to eliminate theunnecessary features. The experimentalfindings for the enhancement of senti-score are determined by combining data fromthree sources among young people and children. Individualsbetween the ages of 13 and 18 are classifiedas Children. Individuals between the ages of 19 and 40 are considered youth. Further, two experiments have been undertaken to assess the performance of the proposed system. In the initial trial, the children and young dataset is utilized.Since the number of chats are sufficient to obtain a decent result fromproposed lexicon method. In the second trial, the impact of impact of lengthened words on sentiment analysis.

DATA PREPARATION METHODS

In this study a new lexicon based is proposed to calculate the aggregated intensified senti-score of the words for detecting lengthened words in sentiment analysis. Lexicon method is oneof themethods or strategies for semantic analysis. This methoddetermines the sentiment orientationsof a whole text or group of sentences based on the semantic orientation of lexicons.

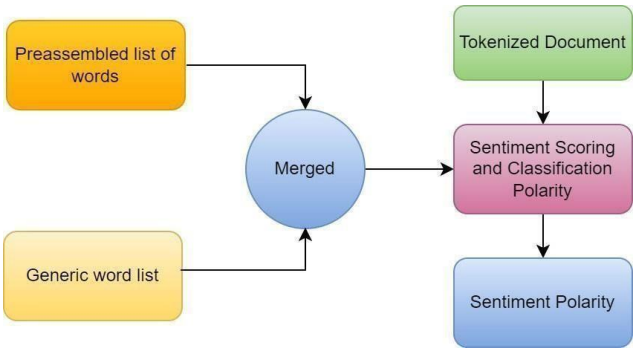
First, lexicons are extracted from the entire document, and then WorldNet or another online the saurus is used to find synonyms and antonyms to enlarge the dictionary. Lexicon- based approaches utilize adjectives and adverbs to determine the text's semantic orientation. For the purpose of determining text orientation, combinations of adjectives and adverbs areextracted with their emotion orientation value. Then, these maybe translated into a single score for the total value as shown in figure below. With the use of a so-called valence dictionary, words in texts are categorized as positive, negative, or neutral. Consider the remark, ''Good people occasionally have terrible days.'' A valence dictionary would classify ''Good'' as a positive word, ''Bad'' as a negative word, and the remaining words as neutral. Once each word in the text has been categorized, we can get an overall emotion score by counting the amount of positive and negative terms and summing these values. A common formula for calculating the sentiment score is as follows:

Sentiment score = number of positive words − number of negative words

The many ways of lexicon-based approach are as follows:

DICTIONARY-BASED METHOD

In this method, a dictionary is compiled by selecting a few terms at first. Then, an online dictionary, thesaurus, or WordNet may be used to add synonyms and antonymsto this lexicon.The dictionary is enlarged until no other words may be added. Manual examination can be utilized to refine the vocabulary.



Lexicon based model

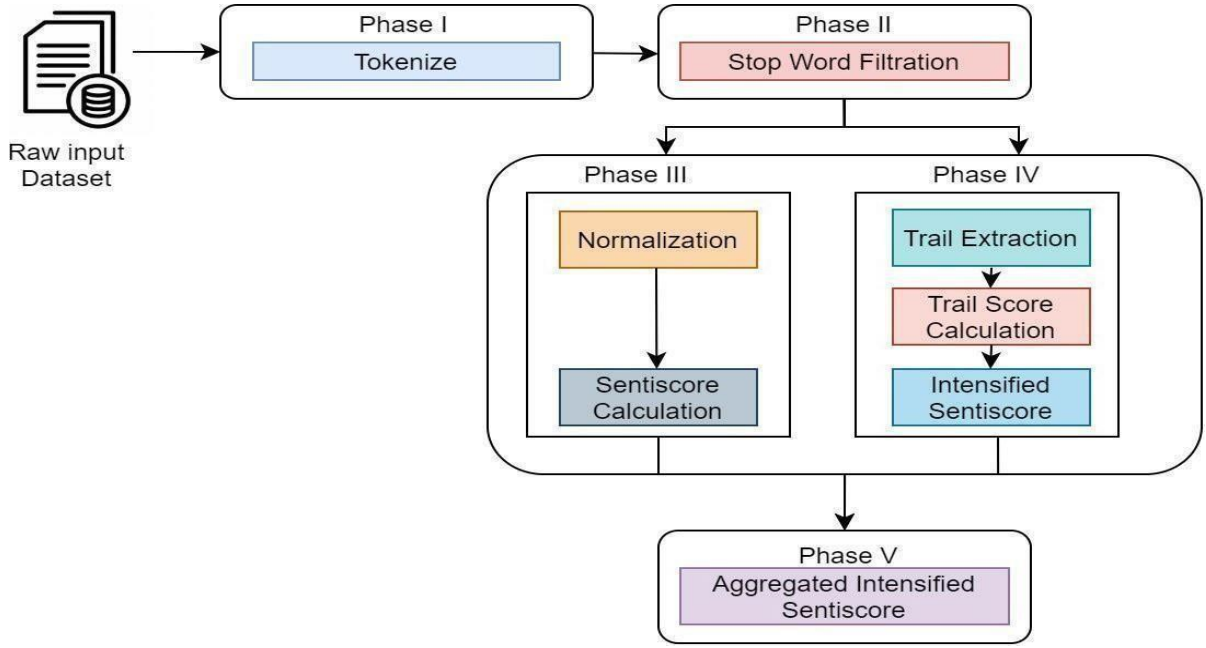
CORPUS-BASED STRATEGY

This identifies the emotional valence of context-specificphrases. These are the two techniques of this strategy:Statistical method: Positive polarity is attributed to thephrases that display unpredictable behavior in positivecontexts. Negative polarity is demonstrated by negative repetition in negative writing. If the frequency of a term isthe same in positive and negative literature, it is neutralpolarity. Semantic approach: This technique assigns sentiment values to words and phrases. The semantically closest words to those terms; this may be done by discovering synonyms and antonyms for that term.

BLOCK DIAGRAM

The methodology of the proposed system involves the phases described below. The raw datafrom the different sources, which is in the unstructured format, is taken as input to the Tokenization. NLP is a branch of artificial intelligence that deals with the interaction between computers and human language. NLP algorithms are usedto analyze text data and extract sentiment, emotions, and opinions.

The following figure shows the block diagram :



CONCLUSION

In the presented system we have presented a system for extracting sentiments. It can be used in other applications as well, i.e., emotion detection. It not only important to capture actual sentiment but the actual mood of the person as well. This study confirmed that the there is a strong impact of lengthened words in sentiment analysis. It is critical to correctly detect these wordsin order to provide complete coverage. We also showed that lengthening is not random,and that it is frequently utilised with subjective terms to accentuate their meaning. The effect is positively related to the percentage of the internet usage as the usage is high in youngsters ascompared to old age and children.As a result of this discovery, we developed an unsupervised strategy based on lengthening for detecting novel sentimentbearing words not found in the existing lexicon and determiningtheir polarity

FUTURE SCOPE

In future work, we aim to handle emoticons, dive deep into emotional analysis to further detect idiomatic statements.We will also explore richer linguistic analysis such as parsing and semantic analysis . The package was designed in such a way that future modifications canbe done easily.
The following conclusions can be deduced from the development of the project:

1. Automation of the entire system improves the efficiency.
2. It gives appropriate access to the authorized users depending on their permissions.
3. It effectively overcomes the delay in communications.
4. Updating of information becomes so easier.
5. System security, data security and reliability are the striking feature.

REFERENCES

[1] L. Zhang, S. Wang, and B. Liu, Deep learning for sentimentanalysis: A survey,'' Wiley Interdiscipl. Rev., Data Mining Knowl. Discovery, vol. 8, no. 4, 2018, pp. e1253.

[2] M. D. P. Salas-Zárate, J. Medina-Moreira, P. J. Álvarez- Sagubay, K. Lagos-Ortiz, M. A. Paredes-Valverde, and R. Valencia-García, ''Sentiment analysis and trend detection inTwitter,'' in Proc. Int. Conf. Technol. Innov. Cham, Switzerland: Springer, Nov. 2016, pp. 63–76.

[3] S. Alashri, S. S. Kandala, V. Bajaj, R. Ravi, K. L. Smith, and
K. C. Desouza, ''An analysis of sentiments on Facebook during the 2016 U.S. presidential election,'' in Proc. IEEE/ACM Int. Conf. Adv. Social Netw. Anal. Mining (ASONAM), Aug. 2016, pp. 795–802.

[4] S. S. Arumugam, ''Development of argument based opinionmining model with sentimental data analysis from Twitter content,'' Concurrency Comput., Pract. Exper., vol. 34, no. 15, p. e6956,Jul. 2022.

[5] J. Guo and X. Chen, ''Bias-sentiment-topic model for microblog sentiment analysis,'' Concurrency Comput.,Pract. Exper., vol. 30, no. 13, Jul. 2018, pp. e4417.

[6] M. Kasri, M. Birjali, and A. Beni-Hssane, ''Word2Sent: A new learning sentiment- embedding model with low dimension for sentence level sentiment classification,'' Concurrency Comput., Pract. Exper., vol. 33, no. 9, May 2021, p. e6149.

[7] M. Hajiali, ''Big data and sentiment analysis: A comprehensive and systematic literature review,''Concurrency Comput., Pract. Exper., vol. 32, no. 14, Jul. 2020, p. e5671.

[8] A. Kumar and A. Jaiswal, ''Systematic literature review of sentiment analysis on Twitter using soft computing techniques,'' Concurrency Comput., Pract. Exper., vol. 32, no. 1, Jan. 2020, pp. e5107.

[9] S. Haider, M. T. Afzal, M. Asif, H. Maurer, A. Ahmad, and A. Abuarqoub, ''Impact analyse. sis of adverbs for sentiment classification on Twitter product reviews,'' Concurrency Comput.,Pract. Exper., vol. 33, no. 4, Feb. 2021, pp. e4956.

[10] Birjali, M. Kasri, and A. Beni-Hssane, A comprehensive survey onsentiment analysis, Approaches, challenges and trends, Knowl.- Based Syst., vol. 226, Aug. 2021, pp. 107134.